

Amplexus, *Cyathophyllum*, and *Arachnophyllum* were noticed, and correlated with British forms when possible; but, on the whole, the facies of the Cœlenterata is American rather than European. Amongst the Crustacea five genera were noticed:—*Bronteus*, *Calymene*, *Encrinurus*, and *Proetus*, all Upper Silurian; and the genus *Asaphus*, associated with *Maclurea*, of Lower Silurian age. Ten species of Brachiopoda, belonging to the genera *Pentamerus*, *Rhynchonella*, *Chonetes*, *Atrypa*, *Strophomena*, have been determined.

Collections were made from twenty localities, ranging from lat. $79^{\circ} 34'$ to $82^{\circ} 40'$ N., notably the highest, at Cape Joseph Henry, where Capt. Feilden obtained a numerous Carboniferous-limestone fauna, numbering about thirty species, chiefly Brachiopoda and Polyzoa, all determined species, and American in character rather than British. Mr. Etheridge believed he had determined, through certain forms of Brachiopoda, the presence in a ravine at Dana Bay of the Devonian rock below the Carboniferous Limestone south of Cape Joseph Henry and Feilden Isthmus, the want of plant-remains preventing any correlation with the Ursa stage of Heer. It cannot now be doubted that an extensive Silurian fauna extends to, and is present from lat. 79° to lat. 82° N., illustrating both the lower and upper divisions of this group of rocks, especially the equivalents of our Wenlock series. Again, north of these there sets in a clearly defined Carboniferous-Limestone fauna, reaching the extremity of the highest latitude we know, and probably striking away beneath the Polar sea to Spitzbergen, where the same species have been described by Toula. The authors, through certain fossils, then endeavoured to show that on the whole the facies of the Polar palæozoic fauna was more nearly allied to that of America than to that of Europe, and thus must be correlated with it, although it was shown that a large number of species are common to the two areas, especially the British Islands. The absence of Lamellibranchiata in rocks older than the Tertiary was noticed as having special interest in the physical history of the Polar seas in Palæozoic and Mesozoic times. None have ever been detected in these rocks. The authors stated that they had sought also for evidence of Trias and Permian fossils in this and other collections made, but there appeared to be none. They also discussed the question of the deposition and extension of the Lias as represented at Eglinton Island and Spitzbergen. The authors furnished a Table showing the distribution of all the species collected by the expedition from twenty localities.

MISCELLANEOUS.

Probable Distribution of a Spider by the Trade-Winds.

REV. H. C. M'COOK states that the *Sarotes venatorius*, Linn., a large laterigrade spider of the ballooning kind, occurs, according to specimens in his private collection, from Santa Cruz, Virgin Isles,

to Cuba, Florida and Yucatan, Central America, Mexico and California, Sandwich Islands, Loochoo Islands and Japan, and thence across Asia and Africa to Liberia, and suggests, in view of these facts and other localities on record, that the trade-winds have promoted this distribution. Among the other localities are the Society Islands, Feejees, Friendly Islands, New Caledonia, Eastern Australia, Mauritius, Madagascar, and several parts of South America. He refers to a fact stated by Darwin, that at a distance of sixty miles from land, while the 'Beagle' was sailing before a steady light breeze, the rigging was covered with vast numbers of small spiders with their webs, each, when first coming into contact with the rigging, seated upon a single filament of spider-web, and so slenderly, in some cases, that a single breath of air was found to bear them out of sight. Mr. M'Cook states that the specimens examined by him show *no variations* which may not be accounted for "by differences in age, or which may not come within those ordinary natural differences which all animals more or less exhibit." But most of the specimens had lost their colours in the alcohol in which they were preserved.—*Proc. Acad. Nat. Sci. Philad.* 1878, p. 136.

On the Relation of Amœba quadrilineata and Amœba verrucosa.

Prof. Leidy stated that the small but characteristic amœboid form originally described by Mr. Carter (*Ann. & Mag. Nat. Hist.* 1856, xviii. p. 243) as *Amœba quadrilineata*, from specimens found in Bombay, he had repeatedly observed from many positions in our vicinity. In association with it he had noticed the singularly sluggish *Amœba verrucosa*, and also many intermediate forms, which led him to the belief that the former was the young of the latter. Subsequently, in reviewing the literature of the matter, he had been gratified to learn that Mr. Carter had arrived at the same result from a different point of view. In investigating the history of *Amœba verrucosa*, he found that its germs yielded young of the character he had previously described as *Amœba quadrilineata* (*Ann. & Mag. Nat. Hist.* 1857, xx. p. 37).

The forms described by Perty as *Amœba natans* (*Kennt. kleinst. Lebensformen*, 1852, p. 188), by Greeff as *Amœba terricola* (*Arch. mikr. Anat.* 1866, p. 299), and by Fromentel as *Thecamœba quadripartita* ('*Études Microzoaires*,' p. 346), he suspected to be the same as *Amœba verrucosa*.—*Proc. Acad. Nat. Sci. Philad.* April 1878.

On the Fossil Mammalia of South America. By M. P. GERVAIS.

Collections from the province des Mines, in Brazil, and from the Argentine Republic have recently been brought to Paris by MM. Ameghino, Brachet, and Larroque; and the author gives the following statement of some of the results of his examination of them.